

RG 104, 8NS-104-94-077
Box 7

8NS-104-94-077, Miscellaneous
Correspondence & Memos, 1897-1994

Numismatic Handbook

Sup's Super Office

Info. by Blake (Assay)

I N D E X

	<u>PAGE NO.</u>
COINAGE BACKGROUND	1
COINAGE PROCESS TIME	2
COIN ALTERATION	3
COIN DESIGN	5
COIN ELIMINATION	6
COIN PROBLEMS	7
COIN PRODUCTION	9
COST OF PRODUCING COINS	10
DOLLARS	11
GOLD	12
MINT MARKS	13
MINT ROBBERY	14
MISCELLANEOUS	15
NOVELTY COINS	19
PAPER CURRENCY	20

Blanks are heated in gas fed retorts (ovens) that are slowly rotating. Heat (depending on type of blank) varies from 1200 - 1600° fahrenheit. This process softens the blanks (giving more life to dies in coin presses). The blanks exit into a quenching bath (sulfuric acid and water 1-100 mix). They are then put into the wash drum where they are washed for 35 - 45 minutes in soap and cream of tartar solution. Then they go to the drying oven. They exit softer, brighter and cleaner.

COINAGE BACKGROUND

- (1) What year did we start making money?

Denver
Mint
Establishment

The Denver Mint was established by an Act of Congress approved April 21, 1862. In September 1863, the facilities of Clark, Gruber and Company were acquired, and the Mint operated as an assay office. The Denver Mint began its coinage operations in the present building in February 1906.

Early
American
Money

(2) The story of American money began with the early settlers in New England who carried on their fur trade with the Indians through the use of wampum. In those days, animal skins, tobacco and wampum were readily exchanged for other commodities. Prior to the use of United States money, English shillings and Spanish doubloons were in circulation. The first coins of the U. S. were authorized in an Act of April 2, 1792. Many changes in the laws governing coinage have taken place since the original act. It takes an Act of Congress to approve the change in coin design, metallic content of the coin and the denomination.

- (3) The Mint headquarters office is in Washington, D. C. whose primary function is administration in nature; no coinage operations are carried on in Washington. The Mints located at Philadelphia and Denver and the San Francisco Assay Office are responsible for the production of coins for both domestic and foreign usage. The manufacture of domestic coinage began in 1793, with the manufacture of foreign coinage in 1876. As a special service, the Mints offer current proof and uncirculated coin sets and other numismatic items such as medals for sale. When regular coins are needed for normal exchange purposes, they are released by the Mints only to the Federal Reserve Banks and branches, and to the Division of Cash Services, Bureau of Government Financial Operations, Treasury Department, Washington, D.C., which distribute them to the commercial banks of the Nation.

(The above information provided by Wicks (Assay))

COINAGE PROCESS TIME

	No. of Minutes
Coil to punch press	5
Annealing (1¢)	120
Upsetting (edges)	1
Coin press	1
Count & Review (counted twice)	$\frac{1}{2}$
<u>Transportation</u>	
Coils to punch press	3
Punch press to annealing	3
Annealing to upsetting	5
Upsetting to presses	5
Presses to Count & Review	3
Count & Review to storage	3
Total Time ,.	2 Hours 26 $\frac{1}{2}$ Minutes

NOTE: Hundreds of thousands of blanks are processed at each given point of action.

One load - approximately 400,000 coins takes, of course, much more time - 30 hours.

(The above information provided by Nicks (Assay))

COIN ALTERATION

(6) We received your letter of 1/14/60 and reiterate that the Treasury Department did not make any copper pennies during 1960; also

Phony
Mint Mark
(Phila.)

- (1) Your letter stated that you possessed a 1976P nickel. This is to advise that the 1976 nickel minted in Philadelphia did not carry a mint mark. In fact, those nickels minted in Philadelphia have not carried a mint mark since 1944. Those nickels which were minted in 1944 and did not show a mint mark were counterfeits.

Silver
1957D Cent

- (2) Your recent letter indicated that you had a 1957D cent that was silver in color and could find no information about this coin.

This is to advise that pennies made in that year, and years to follow, contain 95 percent copper and 5 percent zinc. This is true of the current cent. Apparently, the penny that you have was plated by someone, but certainly is not one produced by the Bureau of the Mint.

Amalgamated
Cent

- (3) The penny that you sent to us recently for examination reveals that it has been amalgamated with mercury. Any penny that has been dipped in mercury will form a copper mercury amalgam that gives a silver colored appearance. This is a fairly common practice, and the penny is certainly nothing out of the ordinary. Sometimes they have been plated with silver and even gold.

Unusual
Colored
Cent

- (4) In your recent letter you described a penny that you felt was unusual in color.

Unfortunately, it is difficult to make any kind of determination without actually examining your coin. The metallic content of the cent has not been changed; it still contains 95 percent copper and 5 percent zinc.

You may if you wish send your coin to our Technical Staff, Bureau of the Mint, Washington, D. C. 20220 for further examination. However, if it is found to be counterfeit, or otherwise in contravention of the law, it will not be returned. Such pieces are sent to the Director of the United States Secret Service, Washington, D. C., for appropriate action.

- (5) The "white" pennies that you refer to in your recent letter were minted of aluminum. There was a possibility that future pennies might have been produced using this metal if they had been acceptable to the general public. All coin changes - whether it has to do with the metallic content, design, new denomination, etc. - have to have the approval of the Congress. A study was conducted by a private firm to consider proposed changes in metallic content. There were no "white" pennies minted in 1960 which you say you have in your possession. We have not changed our operating procedures, nor has the metallic content of the cent been changed. It is still composed of 95 percent copper and 5 percent zinc.

Aluminum
Pennies

COIN ALTERATION (Cont'd.)

- (6) We received your latest letter and reiterate that the Treasury Department did not make any copper pennies during 1943; zinc coated steel was used instead. Zinc, though bluish white by definition, does tend to give a grayish cast to it.

The Mint does not undertake to determine whether certain coins have special value, nor do we recommend coin dealers to whom inquiry could be made.

As to the authenticity of your coin, an opinion cannot be given without actually examining it. If you wish, you may send it to our staff in Washington to have it inspected. However, if it is proven to be counterfeit, or otherwise in contravention of the law, it will not be returned. Address your letter to: Technical Staff, Bureau of the Mint, Washington, D. C. 20220.

- (7) The Treasury Department did not make any copper pennies during the critical war year 1943; zinc coated steel was used instead. These pennies weigh 2.70 grams; the copper penny we know today contains 95 percent copper and 5 percent zinc and weighs 3.11 grams. As you can see, the difference between these two pennies lies not only in color but in weight, too.

COIN DESIGN

Designer
Initials

- (1) In reference to the "mark" you noticed on Kennedy's neck on the half dollar, it is the designer's initials. Gilroy Roberts, former Chief Sculptor of the Mint, designed the obverse of that coin, and his stylized initials appear on the truncation of the bust of the late President John F. Kennedy.

- (2) The following information is provided in accordance with your request:

James E. Fraser, designer of the Indian Head or Buffalo nickel, is quoted below in a letter to the Commissioner of Indian Affairs dated June 10, 1931:

Indian Head
or
Buffalo Nickel

"The Indian Head on the Buffalo nickel is not a direct portrait of any particular Indian, but was made from several portrait busts which I did of Indians. As a matter of fact, I used three different heads; I remember two of the men, one was Irontail, the best Indian head I can remember, the other one was Two Moons and the third I cannot recall."

We believe that the third Indian could possibly have been Big Tree who died in July of 1967. No pictures are available of the three Indians.

Coin Design
Selection

- (3) Who decides what designs go on the coins?

Usually, the selection of coin designs is made by the Director of the Mint, with the approval of the Secretary of the Treasury. It takes, however, an Act of Congress to approve the change in design.

- (4) Why are coins changed to different designs?

In a few instances, the Congress has prescribed the designs, e.g., as a part of the Bicentennial celebration of Washington's birth, held in 1932, Congress declared the likeness of our first President should appear on the quarter dollar. The Bicentennial coins of 1776-1976 were minted in honor of our Nation's 200th birthday.

- (5) Why was Benjamin Franklin honored on a coin, and was not a President?

Although there is no documentary evidence to actually support this statement, it is presumed that Mr. Franklin was so honored because as an inventor, scientist, writer and statesman, he was a legend in his time.

(6) The eagles appear on what coins and their history?

In the Roman days, the eagle symbolized strength and faithfulness; to Americans, it signifies Peace. The eagle is posed with its wings spread out on the Washington quarter which designer Flanagan chose to illustrate a calm, protective eagle. The eagle is also featured on the Kennedy half dollar and is shown spread-wing holding the olive branch of Peace in one claw and a bundle of arrows in the other signifying Defense (serving to symbolize Guardianship). The eagle also appears on the Eisenhower dollar coin.

There have been recommendations to eliminate the eagle. Studies are being conducted by a private concern to consider proposed changes and to ascertain whether these recommendations are favorable as far as the general public is concerned. If and when any change is recommended by the Treasury Department, the public will be informed.

COIN ELIMINATION

Coin
Disfavor

- (1) The elimination of a particular denomination from the coinage system is due to lack of sufficient circulation. As an example, twenty-cent piece was held in disfavor by the general public because of its similarity in design and size to the quarter-dollar. Inflationary reasons - rising costs of alloys in the production of coins as opposed to their face value - can also cause the withdrawal of certain coins from the coinage system.

Some coins no longer in circulation - two-and three-cent pieces, half dimes, quarter and half eagles, trade dollars, three- and four-dollar gold pieces.

Elimination
of Cent

- (2) There have been recommendations to eliminate the cent. Studies are being conducted by a private concern to consider proposed changes and to ascertain whether these recommendations are favorable as far as the general public is concerned. If and when any change is recommended by the Treasury Department, the public will be informed.

(3) In your letter you stated that you possessed a coin that had been only partially stamped. This was the result of the coin being partially outside of the collar during the stamping process.

This coin apparently got through our screening process. However, when millions of coins are minted each day, occasionally a coin will slip through.

(4) Mint or Defect in Coin

The penny that you refer to is one with a defect which apparently got through our screening process. We try to be as careful as it possible, but when we mint millions of coins daily, occasionally a coin will slip through.

(5) Date Missing

According to your letter, it would appear that you have a dime that was the result of an improperly cleaned die, thus the last digit of the date (197-) does not appear. Due to the fact that we make

Coin Problems

(1)

Coins as described in your recent letter are sometimes produced through a malfunction of the mechanism that feeds the coin blank into the coining press.

These coins are normally removed from the production system before they reach circulation; however, it is possible that coins of this configuration could go into circulation without detection. (See below)

(2) Coins similar to the one described in your recent letter are sometimes produced through a malfunction of the mechanism that ejects the stamped coin from the coining press.



(3)

In your letter you stated that you possessed a coin that had been only partially stamped. This was the result of the coin being partially outside of the collar during the stamping process.

This coin apparently got through our screening process. However, when millions of coins are minted each day, occasionally a coin will slip through.

(4) Nick or Cutout in Coin

The penny that you refer to is one with a cutout which apparently got through our screening process. We try to be as careful as it possible, but when one mints millions of coins daily, occasionally a coin will slip through.

(5) Digit Missing

According to your letter, it would appear that you have a dime that was the result of an improperly cleaned die, thus the last digit of the date (197-) does not appear. Due to the fact that we make

COIN PROBLEMS (Cont'd.)

- (6) Your most recent letter included a nickel dated 1960 which you believed contained an error in the "6" of the 1960 year date.

Actually, this was a result of the open part of the six filling with metal dust and/or oil, and is referred to as a filled die. This happens frequently if the dies are not brushed and kept clean.

We shall strive to improve in this area, and we appreciate the fact that you brought this to our attention.

- (7) Coin Errors - In reference to your letter of recent date, concerning a half dollar of a 1970 Denver Mint Set (smaller stars than normal on coin; rounder letter O in word dollar), the following information may be given to your patron:

There is no such thing as a trial set. Mint (uncirculated) coin sets contain pieces manufactured for general circulation purposes. The best uncirculated coins are used in these sets. The Mint cannot guarantee to furnish coins entirely free of blemishes.

The Philadelphia Mint manufactures the dies used to make the coins. As the coinage die wears, there may be minute discrepancies between the coins.

- (8) The "thin" penny that you sent to the Denver Mint reveals a malfunction in the rolling process. This particular penny split into two parts, and the portion that remained was the coin that you mailed to us for examination.

Denver Mint Daily Production of Coins

Average daily production for 1977 was 20,000,000 (17,500,000 or 75 percent were pennies)

COIN PRODUCTION

Coins Minted for Calendar Year 1976

<u>Denomination</u>	<u>Value</u>	<u>Pieces</u>
1¢	\$ 42,215,924.55	4,221,592,455
5¢	28,198,207.35	563,964,147
10¢	69,522,277.40	695,222,774
25¢	120,567,709.75	482,270,839
50¢	36,059,624.00	72,119,248
\$1	24,555,564.00	24,555,564
	<u>\$321,119,307.05</u>	<u>6,059,725,027</u>

Bicentennial Mintage (During CY 1976)

<u>Bicentennial Quarters Produced By</u>	<u>No. of Pieces (Million)</u>
Denver Mint	482.3
Philadelphia Mint	371.10
S. F. Assay Office	2.5

Denver Mint Coin Production (CY 1977)

Pennies	-	\$41,490,623
Nickels	-	14,865,673.60
Dimes	-	37,660,722.80
Quarters	-	64,131,244.50
Halves	-	15,724,553
Dollars	-	32,983,006

Denver Mint Daily Production of Coins

Average daily production for 1977 was 20,000,000 (17,500,000 or 75 percent were pennies)

COST OF PRODUCING COINS (Feb. 1978)
(Info. rec'd. from Acct.)

The following indicates the cost of producing each denomination per thousand:

<u>Denomination</u>	<u>Manufacturing Cost</u>	<u>Metal Cost</u>	<u>Total Cost</u>
1¢	\$ 1.30	\$ 5.55	\$ 6.85
5¢	2.41	15.86	18.27
10¢	1.82	6.59	8.41
25¢	3.11	16.02	19.13
50¢	5.41	31.47	36.88
\$1	10.16	65.28	75.44

COST OF PRODUCING COINS (Oct. 1977)
(Info. taken from Activity Highlights Report Dec. 1977)

1¢	1.91	5.19	7.10
5¢	5.53	11.69	17.22
10¢	4.32	4.92	9.24
25¢	9.66	11.24	20.90
50¢	7.71	31.86	39.57
\$1	14.29	65.52	79.81

COST OF PRODUCING COINS (1976)

1¢	.98	5.91	6.89
5¢	1.75	13.67	15.42
10¢	1.25	5.99	7.24
25¢	2.37	14.49	16.86
50¢	3.67	28.68	32.35
\$1	6.95	59.63	66.58

DOLLARS

- (1) In your letter you wanted to know if there were any silver dollars in storage because there were so few in circulation.

Carson City
Dollars

An auction was performed by the General Services Administration during CY 1973, and Carson City dollars (90 percent silver) were auctioned off to the highest bidders. We still have an inventory of these same dollars which are in storage in San Francisco and again GSA will be holding an auction sometime in the future. No definite date has been set as yet.

- (2) It is unfortunate that we are unable to comply with your recent request to purchase Eisenhower dollars from the Denver Mint.

Single
Coins

I have located a bank that will be happy to help you with your gift selections. The sale of the coins, however, is contingent upon your approval of sending them via registered mail. Mr. Gary Bunch of the First National Bank of Denver has suggested that you check with your local post office as to the cost of mailing these coins via registered mail. Your check or money order should include this registration fee, plus amount of dollars you wish to purchase. Make your personal check or money order payable to: First National Bank of Denver, ATTN: Mr. Gary Bunch, Post Office Box 5808, Denver, Colorado 80217.

- (3) As for the rumor you have heard pertaining to the coining of a new dollar, there have been recommendations made to coin a new dollar somewhat smaller than the present dollar coin. However, there are still studies being made concerning this recommendation. If and when any change is made, the public will be informed.

New
Dollar

GOLD

- (1) The Mint discontinued the purchase of gold and silver in March 15, 1968.

For further information re private sectors, write to:

Treasury Department
Public Affairs
Main Treasury Building
Room 2325
Washington, D. C. 20220

- (2) Department of the Treasury requested GSA to conduct a public auction of approximately 500,000 oz. of gold. Gold will be in bars each containing approximately 250 oz. of a fineness of .995 or better. Auction to be held at 11 a.m. on Monday, June 30, 1975, in GSA office at Seventh & D Streets, Washington, D. C. Sale by competitive bids on so-called "Dutch auction" basis, with all successful bidders paying the same price per ounce of gold. Treasury can reject any or all bids. Bids on behalf of foreign governments will not knowingly be accepted.

Treasury last sold gold on January 6, 1975. Bids for approximately 754,000 oz. of gold were accepted.

- (3) The value of the gold bullion stored at the Denver Mint amounts to \$1,711,044,649.00. (Oct. 1976)

MINT MARKS

- (1) The only Mint that does not use a mint mark is the Philadelphia Mint. For many years, it was the only one in operation so there was no need to have an identifying Mint mark. After other branch Mints were established, Philadelphia coinage continued as in the past, with one exception. During World War II, when the use of metals was restricted, there was a change in the alloy of the five-cent piece and the letter P (for Philadelphia) was used on all five-cent coins for the first and only time. After the war, a return to the regular alloy was made and the use of the letter P was discontinued.

Philadelphia
Mint Mark

Mint Robbery

To our knowledge, the Denver Mint has never been robbed. However, a Federal Reserve truck was robbed at the street curb in front of the Mint. This incident is sometimes erroneously referred to as the Denver Mint robbery. The Federal Reserve personnel had just taken delivery of some currency which they had stored in Mint vaults, and were in the act of placing the currency in their truck when the hold-up occurred. Some Mint guards did take part in the ensuing gun play and one Mint guard was killed. This incident happened in December 1922.

Yes. A sample coin of each denomination is sent each year to the Smithsonian Institute located in Washington, D. C. This institution was founded in 1846. We also send a sample coin to our Bureau office in Washington, D. C. each day.

(3) How many vaults in the Denver Mint?

About ten.

(4) This is to advise that ridges (or ridges) are put on dimes, quarters, half dollars and dollars to make counterfeiting more difficult and to assist in determination of the authenticity of questionable coins.

(5) Congress legislation approved December 31, 1970 removed all silver from the circulating dollar and half dollar coins. Now, none of the coins produced for circulation contain silver. The last of the 90 percent silver - 10 percent copper dollars were minted in 1964.

(6) Your letter stated that you would like to obtain unfinished coins. Legally, we are not allowed to send anyone blanks. Blanks are pieces of metal which are already shaped for a particular denomination but as yet have not been stamped.

(7) As to the moving of the Denver Mint, undoubtedly, you are aware that a number of possible sites were considered for construction of the new Denver Mint. Because of forecasts of increased coinage demands, it was felt that more space would be needed to produce the additional coins. Hence, environmental statements were prepared and published showing advantages and disadvantages of the various sites. A bill was presented before the Congress for authorization of construction of the new Denver Mint. The original bill failed but was modified. Though the modified bill was passed by the House, the bill was held up in the Senate because it was felt there should be an in-depth survey by the GAO of Mint operations in order to justify a new Denver Mint.

Recent reports from GAO indicated that they recommended against building a new Mint.

MISCELLANEOUS

- Proof Coins (1) We are sorry to advise you that the Denver Mint does not strike a proof coin bearing the "D" Mint mark. Proof coins are struck only at the San Francisco Assay Office. Uncirculated coins are produced in the various Mints and sent to San Francisco where they are packaged into sets and made available to the public.
- Sample Coins (2) Have we saved any of the coins?
- Yes. A sample coin of each denomination is sent each year to the Smithsonian Institute located in Washington, D. C. This institution was founded in 1864. We also send a sample coin to our Bureau office in Washington, D. C. each day.
- Vaults (3) How many vaults in the Denver Mint?
- About ten.
- Counter-
feiting (4) This is to advise that reeds (or ridges) are put on dimes, quarters, half dollars and dollars to make counterfeiting more difficult and to assist in determination of the authenticity of questionable coins.
- Removal of
Silver (5) Coinage legislation approved December 31, 1970 removed all silver from the circulating dollar and half dollar coins. Now, none of the coins produced for circulation contain silver. The last of the 90 percent silver - 10 percent copper dollars were minted in 1935.
- Blanks (6) Your letter stated that you would like to obtain unfinished coins. Legally, we are not allowed to send anyone blanks. Blanks are pieces of metal which are already shaped for a particular denomination but as yet have not been stamped.
- Moving of
Denver Mint (7) As to the moving of the Denver Mint, undoubtedly, you are aware that a number of possible sites were considered for construction of the new Denver Mint. Because of forecasts of increased coinage demands, it was felt that more space would be needed to produce the additional coins. Hence, environmental statements were prepared and published showing advantages and disadvantages of the various sites. A bill was presented before the Congress for authorization of construction of the new Denver Mint. The initial bill failed but was modified. Though the modified bill was passed by the House, the bill was held up in the Senate because it was felt there should be an in-depth survey by the GAO of Mint operations in order to justify a new Denver Mint.

Recent report from GAO indicated that they recommended against building a new Mint.

- (8) Does another agency pay for the cost of coining?

Seignorage

No. When funds are transferred to the Federal Reserve Banks, the Treasury Department receives face value for those coins, and this creates a profit which is known as seignorage.

Coinage
Forecast

- (9) The Bureau of the Mint and the Federal Reserve System jointly forecast the anticipated coinage requirements. The coins are distributed to the FRBs and branches, which, in turn, distribute the coins to commercial banks.

Denver Mint
Mission

- (10) The mission of the Bureau of the Mint is to produce sufficient coinage to meet the demands of the Nation. Please direct inquiries pertaining to paper currency to the Director, Bureau of Engraving and Printing, Treasury Department, Washington, D. C. 20226.

Mail Orders

- (11) We are sorry to advise you that the Denver Mint does not accept any mail orders. Since you are presently on the mailing list at San Francisco for the proof and uncirculated coin sets, you automatically receive notice of all numismatic items available for sale.

Proof Coin
Producer

- (12) Proof coins are the exclusive product of the San Francisco Assay Office. Uncirculated coins are produced in the Denver and Philadelphia Mints and sent to San Francisco where they are packaged into sets and made available for sale to the public.

Denver Mint
Souvenir Set

- (13) The Denver Mint sells a Souvenir Set over the counter which consists of the half dollar, quarter dollar, dime, nickel, cent and a commemorative medal of the Denver Mint. The set sells for \$3.00. This set is also available over the counter at Mint outlets in Washington, D. C., Philadelphia and San Francisco, Calif.

- (14) Your recent letter requested information pertaining to the processing of coinage metals.

The Mint sends metals in pure form to private concerns, and they melt up the correct alloys and roll them into strip at the proper gauge and return it to us for further processing. You suggested that the DM might follow the same process as in operation at the PM; however, the DM lacks sufficient space to melt, cast and roll.

- (15) Colorado Centennial-Bicentennial Gold Medal: Specifications are as follows: Alloy - nominal 900 fine gold
Diameter - 1-5/16"
1.165 troy oz. gold per medal
Proof-like medals

- (16) How do we make faces on money?

Dies

A tool or device called a die (it has a face or letters on it) is placed in a coin press and with a very heavy blow stamps a face or letter on our coins.

How did the Bicentennial quarter get so shiny?

Proof Coins

I believe the quarter that you have reference to is what we call a proof coin. These proof coins are made from special blanks (blanks are round pieces of metal that as yet have no faces or letters on them) that have been polished before being bed into the coin presses. The same die that we talked about above is also highly polished and buffed while it is being used. When the Mint makes these proof coins, they hand feed these coins into the coin presses so that there will be fewer scratches on them. Each coin is struck twice to make sure the designs are sharper. These coins have a mirror-like finish.

You asked why San Francisco made so few coins. San Francisco has been charged with the responsibility of producing all the Bicentennial coins, both proof and uncirculated, in addition to producing a great many foreign coins. They make no coins for circulation. Timewise, the process for producing proof coins is about ten times longer than that used in producing regular coins for circulation. Carefully selected blanks are highly polished before being hand-fed into slow moving presses. Unlike the regular coins, the proof coins are struck twice to ensure a more distinct design and each coin is hand-polished, with the end result of a coin of jewel-like quality.

- (17) Why does the Mint burn paper money?

Paper
Currency

The Mints only make coins; the currency is made by the Bureau of Engraving and Printing.

When paper currency becomes worn so that it is no longer fit for use, it is perforated (holes are punched in it), cut and finally burned so that no one could recover it again and use it.

- (18) How many tons of copper is used to make a million pennies?

Cent
Formula

There are 3.110 grams in each penny. There are 454 grams in one lb. $454 \div 3.110 = \text{pennies per lb.}$ $\times 2,000 = \text{pennies per ton.}$

Coin
Jewelry

- (19) In reference to your recent letter, this is to advise that the only illegal use of coins in making jewelry is when an attempt is made to alter the coins in such a manner as to make them appear as a higher or different denomination, or to extract silver from coins.

- (20) You made a statement that only one mint was responsible for producing coins during the years 1965, 1966 and 1967. On the contrary, all three facilities - Denver, Philadelphia and San Francisco - minted coins during these years. There was a coin shortage during that period and no mint mark appeared on any coins.

Denom.	Grms.	Tolerance	Range	Milli-meters	Tolerance
1¢	2.110	± 0.130	3.24 - 2.98	1.575	± 0.076
5¢	3.000	± 0.194	5.19 - 4.81	1.981	± .127 - .076
10¢ Silver	2.500	± 0.097	2.80 - 2.40	1.346	± .127 - .076
25¢ Silver	2.268	± 0.097	2.37 - 2.17	1.346	± .127 - .076
50¢ Silver	2.250	± 0.194	6.44 - 6.05	1.702	± .127 - .076
1.00 Silver	5.670	± 0.194	5.85 - 5.48	1.702	± .127 - .076
12.500 Silver	12.500	± 0.259	12.76 - 12.24	2.184	± .127 - .076
11.502 Silver	11.502	± 0.259	11.76 - 11.24	2.184	± .127 - .076
11.340 Silver	11.340	± 0.259	11.60 - 11.08	2.184	± .127 - .076
26.730 Silver	26.730	± 0.389	27.12 - 26.34	2.896	± .127 - .076
24.592 Silver	24.592	± 0.518	25.11 - 24.07	2.540	± .127 - .076
22.680 Silver	22.680	± 0.518	23.80 - 22.16	2.540	± .127 - .076

The quarter is 2.5 weight of the dollar

WEIGHTS (ALL COINS)

Denom.	Milli-meters	Tolerance	Range
1¢	19.090	± .076	19.13 - 18.97
5¢	21.209	± .076	21.29 - 21.13
10¢	21.907	± .076	21.95 - 21.83
25¢	24.857	± .076	24.93 - 24.15
50¢	30.607	± .076	30.68 - 30.53
1.00	38.100	± .076	38.18 - 38.02

UNITED STATES COINS — STANDARDS AND TOLERANCE

Be

DENOMINATION	MATERIAL	WEIGHT			EDGE THICKNESS		
		Grams	Tolerance	Range	Milli-meters	Tolerance	Range
1¢	Brnze	3.110	± 0.130	3.24 - 2.98	1.575	± 0.076	1.65 - 1.50
5¢	Cu-Ni	5.000	+ 0.194	5.19 - 4.81	1.981 + .127	-.076	2.11 - 1.91
1873-1964 1965 to date 10¢	90% Silver	2.500	+ 0.097	2.60 - 2.40	1.346 + .127	-.076	1.47 - 1.27
10¢	Cu-Ni Clad	2.268	+ 0.097	2.37 - 2.17	1.346 + .127	-.076	1.47 - 1.27
1873-1964 1965 to date 25¢	90% Silver	6.250	+ 0.194	6.44 - 6.06	1.702 + .127	-.076	1.83 - 1.63
25¢	Cu-Ni Clad	5.670	+ 0.194	5.86 - 5.48	1.702 + .127	-.076	1.83 - 1.63
1873-1964 1965 to date 50¢	90% Silver	12.500	+ 0.259	12.76 - 12.24	2.184 + .127	-.076	2.31 - 2.11
50¢	40% Silver	11.502	+ 0.259	11.76 - 11.24	2.184 + .127	-.076	2.31 - 2.11
1971 to date 50¢	Cu-Ni Clad	11.340	+ 0.259	11.60 - 11.08	2.184 + .127	-.076	2.31 - 2.11
\$1.00 1935	90% Silver	26.730	+ 0.389	27.12 - 26.34	2.896 + .127	-.076	3.02 - 2.82
\$1.00 Bicentennial	40% Silver	24.592	+ 0.518	25.11 - 24.07	2.540 + .127	-.076	2.67 - 2.46
1971 to date \$1.00	Cu-Ni Clad	22.680	+ 0.518	23.20 - 22.16	2.540 + .127	-.076	2.67 - 2.46

DIAMETER (ALL COINS)

Denom.	Milli-meters	Tolerance	Range
✓ 1¢	19.050	± .076	19.13 - 18.97
✓ 5¢	21.209	± .076	21.29 - 21.13
✓ 10¢	17.907	± .076	17.98 - 17.83
✓ 25¢	24.257	± .076	24.33 - 24.18
✓ 50¢	30.607	± .076	30.68 - 30.53
✓ \$1.00	38.100	± .076	38.18 - 38.02

The quarter is 2.5 times the weight of the dime.

Technical Information:

Dimensions of cupro-nickel clad coins and 40% silver clad coins are the same as the 90% silver coins prior to 1965. Due to change in alloys and since the size of coins were not changed, there is a weight difference:

	Dime-90% Ag.	Dime-Cu.-Ni.	¼-90% Ag.	¼-40% Ag.	¼-Cu-Ni.
Standard wt.(grams):	2.500	2.268	6.250	5.750	5.670
Composition:	90% Ag 10% Cu.	91.67% Cu. 8.33% Ni.	90% Ag. 10% Cu.	90% Ag. 10% Cu.	91.67% Cu. 8.33% Ni.

	½ Dollar-90% Ag.	½ Dollar-40% Ag.	½ Dollar-Cu-Ni.
Standard wt.(grams):	12.500	11.500	11.340
Composition:	90% Ag 10% Cu.	40% Ag. 60% Cu.	91.67% Cu. 8.33% Ni.

	Dollar-90% Ag.	Dollar-40% Ag.	Dollar-Cupro-Ni.
Standard wt.(grams):	26.730	24.592	22.680
Composition:	90% Ag. 10% Cu.	40% Ag. 60% Cu.	91.67% Cu. 8.33% Ni.

In all clad coinage of cupro-nickel, the composit is 2/3 pure Cu. core clad with 1/6 each side of 75% Cu. and 25% Ni. alloy.

In 40% clad coins, the core is 2/3 Cu. alloy clad, 1/6 on each side with alloy of 80% Ag. and 20% Cu.

7-12
RECEIVED

Jan. 19, 1976
3575 Seay Ave.
Norfolk, Va.
23502

JAN 22 1976

Treasury Department
United States Mint
Denver, Colorado

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

Dear Sir;

There has been three different versions or interpretations for the metallic composition of the three bicentennial coins, the dollar, half dollar and the quarter, of the silver types.

No.1 A cladding of 80% silver, 20% copper, bonded to a core of 20.9% silver, 79.1% copper. This is correct.

No.2 A cladding of 80% silver, 20% copper, bonded to a core of 21.5% silver, 78.5% copper.

No.3 A cladding of 80% silver, 20% copper, bonded to a core of 20% silver, 80% copper.

These are the three versions that I have found in coin books, so therefore could the percentage allowance or tolerance be great enough variation to allow any of the above three versions to be equally as correct as another?, please explain which one is correct. No. 1 is correct with a tolerance of $\pm .6\%$.

And please tell me if the percentages of metal in the three new silver Bicentennial coins is the same exact composition as is the composition for the half dollar minted from 1965 to 1970 and the dollar size coin minted from 1971 to 1974 before the design was changed. Yes. The same.

This is concerning the silver issues only.

To make it a little more simple, in other words, is the composition metal breakdown the same for the silver bicentennial half dollar, and silver Ike dollar as it is for the half dollar(silver type) dated 1965 to 1970 and the Ike dollar minted from 1971 to 1974?. Yes. The same.

Please send me any technical information you might have concerning the silver coins of the bicentennial design and the silver coins minted before the design change 1965 to 1974.

Why are there three different versions? and what percent of the total weight of each of the bicentennial silver coins does the outer cladding represent. (Silver type and copper nickel type if available).

I have written Coin World magazine, American Numismatic Assoc., and Whitman Publishing Co., printers of the well known Red Book, these people are where the three versions I mentioned above came from, so I wrote to you in hopes that you could give me the most accurate information.

Sincerely yours,

Russell A. Harell

NOVELTY COINS

- (1) This is to advise that the cent you possess is one that has been produced by a novelty concern. They utilize a Mint-produced cent and superimpose the likeness of the late President Kennedy facing Lincoln, the outlines of states, etc.

As to the number of pennies that were produced along this line, we would have no way of knowing.

- (2) From your description, it appears to have been a penny that was originally minted here at the Denver Mint, but, at a later date, a private concern superimposed the head of Mr. Lincoln and an outline of a map of the United States. Some cents also have the picture of the late President Kennedy facing President Lincoln - there are many variations that have been produced. None of the Mints have ever produced such a coin.

It is noted that the missing portions have been totally destroyed. His judgment shall be based on such evidence of total destruction as he deems necessary and shall be final.

➤ No relief will be granted on account of paper currency of the United States which has been totally destroyed.

The public should address all correspondence regarding mutilated currency to the Office of the Treasurer of the United States, Room 1123, Main Treasury Building, Washington, D. C. 20220.

EXCHANGE OF MUTILATED PAPER CURRENCY

Lawfully held paper currency of the United States which has been mutilated will be exchanged at its face amount if clearly more than one-half of the original whole note remains.

Fragments of such mutilated currency which are not clearly more than one-half of the original whole note will be exchanged at face value only if the Treasurer of the United States is satisfied that the missing portions have been totally destroyed. His judgment shall be based on such evidence of total destruction as he deems necessary and shall be final.

→ No relief will be granted an account of paper currency of the United States which has been totally destroyed.

The public should address all correspondence regarding mutilated currency to the Office of the Treasurer of the United States, Room 1123, Main Treasury Building, Washington, D. C. 20220.

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